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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626.5/ 2483.5-2500 MHz Frequency Bands	)	CC Docket No. 92-166

To: The Commission

COMMENTS OF COMSAT CORPORATION

COMSAT Corporation

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May 5, 1994

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SUMMARY

COMSAT Corporation ("COMSAT"), through its COMSAT Mobile Communications division, is submitting Comments on the Commission's proposed rules for the provision of mobile satellite services ("MSS") in the 1.6/2.4 GHz frequency bands. The attached Comments generally support the Commission's proposed regulations for the licensing and operation of U.S. MSS systems, with certain clarifications. Most significantly, while the Commission's proposed MSS rules appear to recognize the need for local licensing of MSS systems throughout the world, the Commission does not appear to have given adequate consideration to the underlying policy issues regarding global MSS spectrum requirements, frequency coordination and licensing of international services. COMSAT urges the Commission to revisit these policy issues and to modify, or clarify, the final rules for MSS services to provide for full international cooperation and coordination on policy, operational, service, and spectrum issues.

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To: The Commission

COMMENTS OF COMSAT CORPORATION

COMSAT Corporation ("COMSAT"), through its COMSAT Mobile Communications Division, hereby submits the following comments in response to the Commission's Notice of Proposed Rulemaking ("NPRM") in CC Docket No. 92-166, which proposes rules and policies to govern the provision of mobile satellite services ("MSS") in the frequency bands or 1610-1626.5/2483.5-2500 MHz.[1]

INTRODUCTION

COMSAT generally supports the Commission's efforts to establish regulations governing the licensing and operations of U.S. MSS systems as an important step in the process of deploying global satellite communications systems capable of operating with handheld terminals. Although COMSAT is not presently an applicant for the 1610-1626.5/2483.5-2500 MHz bands, COMSAT, as the U.S. Signatory to the International Maritime Satellite Organization ("Inmarsat"), has a direct interest in the provision of future satellite-based handheld communications services and served as a member of the "MSS Above 1 GHz Negotiated Rulemaking

[1]Notice of Proposed Rulemaking, CC Docket No. 92-166, FCC 94-11 (released February 18, 1994) ("NPRM").

Committee (the "Committee")." As such, COMSAT is familiar with the inter-system and inter-service sharing issues raised in this proceeding and supports the adoption of rules which will accommodate multiple global MSS systems.

As the Commission has emphasized in the NPRM, mobile satellite services will combine domestic and international operations which will bring new communications services to users everywhere, including underserved areas of the world, and which will create opportunities for economic growth in the United States and abroad. Although the NPRM appears to recognize the need for local licensing of MSS systems around the world, the proposed rules seem in many instances to have a direct impact on global MSS operations without giving adequate consideration to the underlying international policy issues regarding global MSS spectrum requirements, coordination and licensing of international services. Because of the international component of the MSS allocations, and the historical leading role taken by the United States to foster global satellite systems, COMSAT urges the Commission to devise rules which meet domestic licensing objectives and which provide assurances that international cooperation and coordination on policy, operational service and spectrum issues will be conducted to meet U.S. national and foreign policy objectives.

DISCUSSION

I. International Coordination Procedures Should Facilitate U.S. National and Foreign Policy Objectives

The Commission proposes at paragraph 23 of the NPRM to require each MSS applicant to demonstrate that its proposed system is capable of providing service to all areas of the world, with the exception of the polar regions, for at least 75% of every 24 hour period. See NPRM at para. 23. Clearly the Commission envisions that the proposed MSS systems will operate globally in as many countries as possible including, of course, the United States.

Nevertheless, and in spite of the clear intent of the Commission that the proposed MSS systems operate as global systems, the NPRM is silent on how the Commission's policies and rules for U.S. authorized global MSS systems will be harmonized with those of other countries expected to be partners and/or users of U.S. authorized systems. Also, the NPRM gives no indication of what the U.S. policy will be toward other global satellite systems that may be initiated and authorized by authorities in other countries seeking to operate their systems and provide services within the United States.

The NPRM simply recognizes that MSS systems will likely require global coordination for frequency assignments and consultations pursuant to the International Telecommunications Satellite Organization ("INTELSAT") and Inmarsat Agreements. NPRM at para. 91. The Commission also states that it will continue to require U.S. licensees to meet both their

international obligations and any national requirements imposed by other licensing administrations regarding operations within their territories. NPRM at para. 92. According to the Commission, all decisions relating to the implementation of a 1.6/2.4 GHz mobile satellite service within a country's territory will remain solely within that country's jurisdiction and control.

From outside the United States it may appear to other countries that the Commission's NPRM is devising rules to carve-up all the available 1610-1626.5/2483.5-2500 MHz global MSS allocations adopted at WARC-92 by over 100 countries and that there may not be any spectrum left for non-U.S. authorized MSS systems. We believe that concerns are growing in other countries that the U.S. appears to be making the rules that all others must play by if they are to gain access to orbit and spectrum resources and emerging technologies.

These are important, though complex, issues in today's changing telecommunications environment. Looking ahead we see a global information infrastructure emerging with public and private networks interoperable to support a full range of more personal and mobile type communication services. Commercial entities will increasingly provide more of the world's telecommunications facilities and services through global alliances, partnerships and mergers among operators and service providers. Competition will increase and governments will continue to separate policymaking and regulatory functions from

operational activities. These global networks of satellites, fibers and wireless hand-held terminals will revolutionize the traditional relationships and practices among operators, users and governments.

Indeed, these developments and the instant proceeding raise concerns, we believe, over the lack of involvement by other countries in formulating policies for global LEO systems and may have prompted a Japanese proposal to the International Telecommunications Union ("ITU") Plenipotentiary Conference in Kyoto this fall to establish a World Telecommunications Policy Conference within the ITU to treat such global telecommunications policy issues. The Japanese proposal, as well as any others that may follow, will no doubt receive considerable attention within the United States and other countries in preparing for the Plenipotentiary Conference.

In our view, the Commission could help relieve much of the concern and pressure to increase the ITU's involvement in the regulatory and policy aspects of global systems by addressing, in this proceeding, how U.S. authorized MSS systems intended for global operations will be coordinated with other countries for policy, regulatory, and operational aspects as well as in the more traditional aspects of frequency coordination.

II. Domestic MSS Licensing Procedures Should Accommodate Multiple International MSS Operations Through an Appropriate Spectrum Sharing Proposal

Following the 1992 World Administrative Radio Conference ("WARC-92"), Inmarsat filed an advance publication with the

ITU/IFRB for the only two new segments of global spectrum allocated for MSS: at 2 GHz and in the instant 1.6/2.4 GHz bands. COMSAT has indicated for two years that we would prefer to use the 2 GHz spectrum for our future advanced handheld Inmarsat-P service. As part of that effort we have sought reconsideration of the Commission's Second Report and Order in GEN Docket No. 90-314 which allocated 20 MHz of the 30 MHz downlink band for global MSS spectrum to terrestrial personal communications services ("PCS").[2] We also supported, in the preparations for the 1993 World Radio Conference ("WRC-93"), the advancement of the date for global availability of the 2 GHz MSS bands from 2005 to a date earlier than the year 2000.

If the Commission makes the 2 GHz global MSS bands adopted at WARC-92 available within the United States, and if the date for global availability of these bands can be moved forward at WRC-95 as expected, then COMSAT would proceed with plans for Inmarsat to rely upon the availability of the 2 GHz spectrum for its follow-on system. However, in the absence of adequate spectrum at 2 GHz for global operations, Inmarsat will have no choice but to plan its future operations in the MSS "Big LEO" bands and in the already congested L-band.[3] Given this situation

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[2]Second Report and Order, GEN Docket No. 90-314, 8 FCC Rcd 7700 (1993); "Petition for Partial Reconsideration" filed by COMSAT in GEN Docket No. 90-314, December 8, 1993.

[3]The United States is by far the largest market for global MSS services. If the WARC-92 2 GHz global MSS bands are not available within the United States, other global bands would have to be utilized.

and the possibility that the Commission will deny COMSAT's Petition for Reconsideration of the PCS Order and proceed to preempt the use of the WARC-92 2 GHz bands in the United States, we reserve the right to "come back to" the Commission on this issue. We now address policy issues that would pertain if Inmarsat should find that there is no viable and timely alternative to that of pursuing spectrum for growth in the instant 1.6/2.4 GHz bands.

In the NPRM, the Commission considers a number of alternatives for licensing domestic MSS systems. The preferred alternative consists of a spectrum sharing arrangement which is based largely on the proposals advanced by the low-earth orbit ("LEO") applicants in this proceeding. COMSAT has generally supported the adoption of a spectrum sharing solution in the 1610-1626.5/2483.5-2500 MHz frequency bands which will accommodate all pending proposals for MSS systems and provide an opportunity for additional future MSS systems. We are concerned, however, that the Commission's proposal does not provide sufficient opportunity for expansion or inclusion of MSS proposals beyond those now pending at the Commission.

The MSS sharing arrangement proposed in the NPRM will accommodate only five non-geostationary systems in the 16.5 MHz of paired bandwidth allocated for MSS systems. NPRM at para. 32. COMSAT is concerned that the Commission's plan does not provide for the entry of additional international MSS systems beyond the five LEO systems with applications currently pending at the

Commission. In essence, the Commission's "a priori" band segmentation sharing proposal effectively carves up the allocated spectrum in the 1610-1626.5/2483.5-2500 MHz for global MSS systems and ignores the fact that Inmarsat, and potential operators in other countries, have filed advance notification for this spectrum at the International Frequency Registration Board ("IFRB").

It also is not clear to COMSAT how, or when, U.S. domestic MSS spectrum sharing rules could be modified to accommodate non-U.S. systems intending to provide North American service. At present, the Commission has assigned specific frequencies to two technologies: 11.35 MHz is assigned for CDMA systems at 1610-1621.35 MHz and 5.15 MHz is assigned to FDMA/TDMA systems at 1621.35 MHz to 1626.5 MHz. Unless a non-U.S. authorized satellite system operator were to "match up" exactly with the Commission's plan, it is doubtful whether a non-U.S. system could successfully operate in the 1.6/2.4 GHz bands. This has very broad international implications.

In paragraph 21 of the NPRM, the Commission discusses the global nature of LEO satellite systems and the potential services that such systems could provide. NPRM at para. 21. This is contrasted with a GSO satellite that is fixed relative to a point on the earth and, according to the Commission, has "footprint" which allows only regional service at best. The Commission suggests that the LEO industry may be uniquely positioned to foster social and economic benefits in the United States and

throughout the world. For these reasons the Commission proposes to require MSS systems licensed in the 1610-1626.5/2483.5-2500 MHz bands to operate in non-geostationary orbits.

As the Commission is well aware, one LEO satellite does not make a global system. Indeed, the proposed Iridium system requires 66 satellites. In contrast, a global GSO satellite system needs only 3 or 4 satellites for global coverage except for the polar regions. The first global satellite system, INTELSAT, was fostered by an Act of the U.S. Congress in 1962 and became truly global in the early 1970s. The global Inmarsat MSS system was also fostered by an Act of the U.S. Congress in 1978. We say this to point out that the social and economic benefits suggested by the Commission as being made possible by LEO systems are being realized today over the Inmarsat and INTELSAT GSO global systems. We know of no technological or other reason to believe that the services and benefits enjoyed by future telecommunications users made possible by satellite technology will be unique to particular orbits. Future business and social users of handheld terminals that can roam worldwide will not be concerned with the orbit(s) of the satellites they are accessing. While the satellite characteristics and operating parameters will be different depending upon the intended orbits, the user will be focused on the services provided which will not be dependent upon the particular satellite orbit. Accordingly, none of the reasons given in the NPRM could, in our view, justify a Commission policy to exclude satellites in GSO orbit while at the same time

including satellites in all other orbits.

Finally, as an alternative to band segmentation, the Commission proposes to use auctions to resolve mutual exclusivity issues among competing applicants for the 1610-1626.5/2483.5-2500 MHz bands. NPRM at para. 41-45. COMSAT has previously indicated to the Commission our opposition regarding the use of auctions to award licenses for international MSS systems.[4] As the Commission acknowledges in the NPRM, the use of competitive bidding in this context may encourage other countries to impose similar entry fees which may effectively preclude U.S. systems from serving other countries. NPRM at para. 44. A worldwide trend to implement auctions not only will significantly drive up the cost of providing global MSS operations, but there is also the danger that auctions conducted by other countries may be invoked as trade barriers or other mechanisms to unfairly discriminate against U.S. companies. Indeed, there is support in the legislative history accompanying the competitive bidding language of the Budget Act that the Congress did NOT intend auctions to be used in the instant proceeding.[5] For these reasons, COMSAT believes that the Commission should reject the use of spectrum auctions and give further careful consideration to alternative spectrum sharing arrangements which will accommodate multiple international MSS systems.

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[4]See "Comments of COMSAT Corporation" in the Matter of Implementation of Competitive Bidding, PP Docket No. 93-253, filed November 10, 1993.

[5]See H.R. Rep. No. 111, 103rd Cong., 1st Sess. 585 (1993).

III. Interservice Sharing Proposals Should Not Preempt Ongoing Actions in Other Domestic and International Proceedings

The NPRM proposes rules for interservice coordination requirements between MSS and the aeronautical radionavigation service and radionavigation satellite-service. NPRM at para. 53-58. COMSAT agrees generally with these coordination requirements and with the Commission's characterization of the Committee's conclusions in this area. In particular, COMSAT supports the adoption of the Committee's recommendation to prohibit MSS terminals from being used on civil aircraft unless the terminal connects directly to the aircraft Cabin Communications system. Id. at para. 56. This procedure affords adequate protection for operation of GLONASS or GPS satellite aeronavigation receivers and other navigational avionics on-board aircraft.

COMSAT is concerned, however, that the Commission may be rushing the adoption of out-of-band emission standards regarding GLONASS and GPS operations. The Commission correctly states that the Committee was unable to reach a consensus on these issues and indicates that the Commission has initiated both inter-agency and international negotiations on these topics. Id. at notes 99, 101. COMSAT urges the Commission to await the completion of both the inter-agency and MSS industry studies on GLONASS and GPS coordination and the Russian Federation's consideration of a possible move of GLONASS to spectrum below 1606 MHz before the Commission adopts final inter-service coordination rules. Thus, what is now, for all practical purposes, a difficult in-band coordination problem, may resolve itself to a manageable out-of-

band emission situation, if GLONASS operations are moved to lower frequencies.

IV. Feeder Link Assignments Should Facilitate the Needs of International MSS Systems

COMSAT supports the Commission's willingness in the NPRM to make sufficient feeder link spectrum available at 28 GHz and to continue to pursue additional bands around or below 15 GHz to accommodate all MSS applicants that may be licensed in this proceeding. See id. at para. 77. COMSAT is well aware that the 30/20 GHz fixed-satellite service ("FSS") band is one attractive alternative for non-GSO MSS feeder links due to the paucity of operational GSO FSS networks and the quasi "secondary" status accorded non-GSO feeder links with respect to GSO space stations operating in the FSS under the International Telecommunications Union ("ITU") International Radio Regulations. See ITU RR 2613.

Indeed, as COMSAT has indicated in the related proceeding regarding use of the 28 GHz band, it is likely that the Inmarsat-P feeder links also will fall within the 30/20 GHz band.[6] Should Inmarsat-P be deployed in an intermediate circular orbit ("ICO"), Inmarsat would have a need to accommodate ICO feeder links using between 100 MHz and 200 MHz of bandwidth, in each direction, within the 30/20 GHz FSS allocations, depending upon the design of the satellite and the extent to which digital channelization could be employed. Due to Inmarsat's interest in these feeder

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[6] See Letter to William F. Caton from Warren Y. Zeger, General Counsel for COMSAT Corporation, CC Docket No. 92-297, filed March 21, 1994.

link bands, COMSAT has requested that the 28 GHz Negotiated Rulemaking Committee address its interests in conjunction with their efforts to devise spectrum sharing criteria for the 28 GHz band.

COMSAT also urges the Commission to give adequate consideration to accommodating MSS feeder link requirements in lower frequency bands around or below 15 GHz in order to ensure that global MSS systems proposing these service links may proceed in a timely manner. However, COMSAT proposes that this issue be addressed by the Advisory Committee to be created as part of the Commission's preparations for WRC-95. As the Commission is aware, spectrum for MSS feeder links is a major topic to be addressed at WRC-95 and requires international cooperation and coordination. COMSAT urges the Commission, in the U.S. proceeding preparing for the conference, to provide an opportunity for the Advisory Committee to fully address the issue of alternative MSS feeder link bands and ensure close coordination with other countries prior to WRC-95 to identify appropriate feeder link frequencies. Given the demands for feeder link spectrum, it is imperative that the world community agree to allocations at the 1995 conference and not have to wait for WRC-97.

V. The Commission Should Clarify the Distress and Safety Services to be Offered by the MSS Systems

The Commission in paragraph 86 of the NPRM addresses the issue of what role, if any, the proposed MSS systems will have in providing maritime distress and safety services. NPRM at para.

86. The Commission states that some or all of the Big LEO applicants plan to provide maritime distress and safety services -- but not on an "extensive" basis -- and notes that all of the proposed systems will have certain obligations pursuant to the Safety of Life at Sea ("SOLAS") Convention and the Communications Act of 1934.

Because of the critical nature of distress and safety communications to the maritime community and the extensive international effort that is underway to implement the Global Maritime Distress and Safety System ("GMDSS"), the Commission should seek a clearer statement of intent on the part of the applicants with respect to the extent of their provision of maritime distress and safety communications and possible participation in the GMDSS.

VI. Blanket Licensing of MSS Terminals Will Promote Rapid Development of the Global MSS Market

COMSAT endorses the Commission's proposed blanket licensing procedures for mobile earth stations ("MES"). NPRM at para. 88. Under this approach, a MES vendor would hold the authorization for a specified number of technically identical terminals which have previously been shown to cause no interference with other authorized users of the spectrum. Such an approach provides maximum flexibility to vendors and end users in the sale and purchase of MES for MSS systems. It also promotes rapid deployment of MES to customers which should help to reduce delays in the initiation of service.

In COMSAT's experience, global MSS customers are often eager

to begin service and want to take their portable terminals with them as they run to catch a plane for an urgent assignment in a remote part of the world. Customers do not want to stop and fill out a lengthy form to use the equipment or repeat this step at every international border. For that reason, COMSAT also supports the Commission's stated intention to facilitate international roaming with MES terminals by permitting technically compatible foreign equipment to be used in the United States. NPRM at para. 89.

In addition to expediting service, blanket licensing of MES equipment should bring more terminals to the market in a shorter time period and, thus, help to reduce equipment costs and promote competition in the terminal equipment market. This result was seen most dramatically in the U.S. cellular equipment market in which a blanket licensing approach and an open vendor market produced steep discounts in equipment prices over time. As a result, U.S. cellular equipment manufacturers have achieved a strong competitive position in the international marketplace. The Commission's blanket licensing proposal for MES should help to encourage a similar pro-competitive effect for U.S. manufacturers in the global MES marketplace.

CONCLUSION

For the reasons stated above, COMSAT urges the Commission to clarify, in several respects, its proposed rules for MSS systems operating in the 1.6/2.4 MHz band to ensure that there is

international cooperation and coordination on policy, operational, services and spectrum issues.

Respectfully Submitted,

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